

June 22, 2004

In response to Docket ET 03-104 before the Federal Communications Commission.

These are my reply comments concerning the referenced Docket.

I am a licensed Amateur Radio Operator (Extra class callsign KB9CRY) and a lifetime short-wave radio listener. I have a BS in Chemical Engineering from Illinois Institute of Technology and have over 23 years of extensive engineering experience in the chemical manufacturing industry. I am an active Amateur Radio DXer and Low Band operator and feel my experience in these activities qualifies my comments.

I believe that BPL Providers should be held to the following requirements:

1. A limit on BPL signal power to compensate for variations in power line noise, radio noise on power lines can vary by upwards of 20 dB throughout a day.
2. BPL operators "should be required to notify of planned deployments at least 30 days in advance of implementation and to consider the coordination data they receive regarding local radio receiver operations in order to prevent interference.
3. To make it possible for radio operators to diagnose suspected BPL interference, BPL operators should provide sufficient details of the BPL emission to enable identification using a spectrum analyzer.
4. Apply its more stringent certification, rather than verification, procedures, to authorize BPL systems. Certification should require independent testing, as opposed to having a BPL operator merely attest that its system complies with FCC rules.
5. Coordination areas in which a designated authority would coordinate all planned BPL deployment. It also wants to exclude certain specific bands and frequencies and geographical areas to protect critical federal government systems.

I also question the Commission's ability to administer to the inevitable interference complaints that will surely result with implementation of BPL. Complaints will be filed with the FCC by both radio operators and by BPL Providers themselves. (See my own Comments to the NPRM for details to this "dual" interference.)

My example is described below by fellow radio amateur, W0SR, of Cedar Rapids, IA. How can the Commission let this type of interference languish without intervention on the FCC's part?

The ARRL has weighed in on behalf of Iowa amateur and ARRL member Jim Spencer, W0SR, of Cedar Rapids, who has suffered severe broadband over power line (BPL) interference for more than two months. A formal complaint to FCC Enforcement Bureau Chief David H. Solomon calls on the Commission not only to order Alliant Energy's BPL field trial system to shut down but to fine the utility \$10,000 for violating the Communications Act of 1934 and FCC Part 15 rules. Alleging "ongoing harmful and willful interference to one or more licensed radio stations," the ARRL asked Solomon to intervene "on an emergency basis." ARRL CEO David Sumner, K1ZZ, who signed the letter of complaint, said Alliant Energy has been aware since March 30--the date it

installed Amperion BPL equipment in Spencer's neighborhood--that the BPL system was causing harmful interference.

"It's simply unacceptable for Alliant Energy to continue to cause interference while they're trying to solve the problem," Sumner said. While the utility has been cooperative, mitigation efforts have been only marginally successful. The BPL system continues in operation, Sumner notes, despite repeated requests to eliminate the interference or shut the system down.

The complaint cites the Commission's own Part 15 rules prohibiting harmful interference from the operation of an unlicensed intentional, unintentional or incidental radiator to a licensed radio service. "If harmful interference is caused, the radiator may not operate," the complaint says. "There is simply no room for interpretation that would lead to such harmful interference being permissible for any period of time--certainly not 10 weeks."

The letter of complaint summarizes and culminates a series of exchanges and actions in an unsuccessful effort to resolve Spencer's BPL interference. Sumner said the League got specifically involved in Spencer's case after United Power Line Council <http://www.uplc.org> President William R. Moroney invited the League in mid-March to keep his organization in the loop on any cases of BPL interference that were not being satisfactorily addressed. When Spencer's case arose, Sumner said, the League considered it "a good place to start."

Among other approaches, Alliant Energy has tried notching out the HF amateur bands. After notching attempts in late May, Spencer--a retired engineer and former Collins Radio employee--still reported "significant levels" of BPL interference on some bands and power line noise on 160 meter and 80 meters.

An Amperion contractor indicated that the notching--or "power masking" remains a "beta procedure" as well as "somewhat labor intensive." The contractor, Tom Luecke, indicated to Spencer in early April that he had cranked down the BPL system's gain "a notch below where I would like to have them" on three units closest to Spencer's home.

Although claiming Amperion's equipment to be FCC Part 15 compliant, "We are not a radio silent technology, nor do we claim to be," Luecke conceded. "Put another way, you can hear our signal, but we strive not to interfere with ham operators on the ham bands." He said his company has a good track record with the amateur community and "would like to think that the majority of apprehension about Amperion's technology lies in misinformation."

Sumner said UPLC representatives have made good-faith efforts to persuade Alliant Energy to comply with the FCC rules. Spencer "has cooperated fully and patiently" with Alliant Energy's and Amperion's fruitless efforts to eliminate the interference, the complaint notes. The BPL partner companies' best efforts to date notwithstanding, Sumner said, the time had come to say enough is enough.

"The situation in Jim's case is egregious, and it's been going on for 10 weeks," he said. "If this is the best we can expect when a BPL system causes interference, then the only answer is to prevent them from being deployed."

The letter of complaint calls on the FCC to notify Alliant Energy "immediately to cease operation of their BPL devices in accordance with §15.5(c), and to follow up that notification with a Notice of Apparent Liability."

Surely the Commission's own technical advisors will admit that interference, both ways, will be a problem. How can the Commission be so blind to the obvious facts of science?

Please strongly support the implementation of wireless broadband and abandon this silly idea of using HF signals over an unshielded network, which is BPL.

Philip Camera, KB9CRY
17541 Farrell Rd.
Lockport, IL 60441